Lean Construction Principles and Implementation Training Course

Professional Development Training Course Outline

Category	Civil Engineering and Infrastructure Management	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The global construction industry, including that in Nairobi, Kenya, is increasingly challenged by inefficiencies, waste, cost overruns, and unpredictable project deliveries. Lean Construction Principles and Implementation Training Course equips professionals with methodologies to eliminate waste, optimize processes, and deliver enhanced value in construction projects. Traditional construction practices often lead to fragmented processes, poor communication, and a reactive approach to problem-solving. Lean Construction offers a transformative paradigm, drawing inspiration from lean manufacturing principles to radically improve project performance. It focuses on maximizing value for the customer while minimizing waste across all phases of a project, from design and procurement to fabrication and installation. Key wastes targeted include overproduction, waiting time, unnecessary transportation, over-processing, excess inventory, unnecessary motion, defects, and underutilized talent. By fostering a culture of continuous improvement, collaboration, and predictable workflow, Lean Construction aims to enhance productivity, reduce costs, improve quality, and deliver projects faster and more reliably. This course is meticulously designed to equip project managers, site managers, civil engineers, architects, quantity surveyors, contractors, consultants, and anyone involved in the construction value chain with the expert knowledge and practical methodologies to understand, adopt, and implement Lean Construction principles effectively in their projects and organizations. The program focuses on lean thinking, waste identification and elimination, value stream mapping, the Last Planner? System, pull planning, continuous improvement (Kaizen), and lean culture development, blending rigorous analytical frameworks with practical, hands-on application, global case studies (including relevant examples from Kenya's construction sector), and interactive lean simulation exercises. Participants will gain the strategic foresight and technical expertise to confidently lead lean transformations, fostering unparalleled efficiency, predictability, and value delivery, thereby securing their position as indispensable leaders in modernizing construction practices for competitive advantage.

Programme Curriculum

Lean Construction Principles and Implementation Training Course

Introduction

The global construction industry, including that in Nairobi, Kenya, is increasingly challenged by inefficiencies, waste, cost overruns, and unpredictable project deliveries. **Lean Construction Principles and Implementation Training Course equips professionals with methodologies to eliminate waste, optimize processes, and deliver enhanced value in construction projects.** Traditional construction practices often lead to fragmented processes, poor communication, and a reactive approach to problem-solving. **Lean Construction** offers a transformative paradigm, drawing inspiration from lean manufacturing principles to radically improve project performance. It focuses on **maximizing value for the customer while minimizing waste** across all phases of a project, from design and procurement to fabrication and installation. Key wastes targeted include overproduction, waiting time, unnecessary transportation, over-processing, excess inventory, unnecessary motion, defects, and underutilized talent. By fostering a culture of continuous improvement, collaboration, and predictable workflow, Lean Construction aims to enhance productivity, reduce costs, improve quality, and deliver projects faster and more reliably. This course is meticulously designed to equip **project managers, site managers, civil engineers, architects, quantity surveyors, contractors, consultants, and anyone involved in the construction value chain** with the expert knowledge and practical methodologies to **understand, adopt, and implement Lean Construction principles effectively in their projects and organizations.**

The program focuses on **lean thinking, waste identification and elimination, value stream mapping, the Last Planner® System, pull planning, continuous improvement (Kaizen), and lean culture development,** blending **rigorous analytical frameworks with practical, hands-on application, global case studies (including relevant examples from Kenya's construction sector), and interactive lean simulation exercises.** Participants will gain the strategic foresight and technical expertise to confidently lead lean transformations, fostering unparalleled **efficiency, predictability, and value delivery**, thereby securing their position as indispensable leaders in **modernizing construction practices for competitive advantage.**

Course Objectives

Upon completion of this course, participants will be able to:

1. **Analyze core concepts and strategic responsibilities** of **Lean Construction principles and their implementation.**
2. **Master sophisticated techniques** for **identifying and eliminating the eight types of waste (TIMWOODS)** in construction processes.
3. **Develop robust methodologies** for **performing Value Stream Mapping (VSM)** to optimize workflow and material flow.
4. **Implement effective strategies** for **applying the Last Planner® System (LPS)** to improve planning reliability and workflow predictability.
5. **Manage complex considerations** for **implementing pull planning and just-in-time (JIT)** principles in construction scheduling and logistics.
6. **Apply robust strategies** for **fostering a culture of continuous improvement (Kaizen)** and problem-solving within project teams.

7. **Understand the deep integration of Lean principles with digital technologies** like Building Information Modeling (BIM).
8. **Leverage knowledge of global best practices and lessons learned** from successful Lean Construction implementations worldwide.
9. **Optimize strategies for applying Lean tools** such as 5S, visual management, and A3 thinking for operational excellence.
10. **Formulate specialized recommendations** for **overcoming common barriers to Lean adoption** and fostering collaboration.
11. **Conduct comprehensive assessments** of current construction processes to identify opportunities for Lean transformation.
12. **Navigate challenging situations** such as **resistance to change, supply chain variability, and contractual constraints** in Lean implementation.
13. **Develop a holistic, waste-eliminating, and value-adding approach** to **Lean Construction principles and implementation,** driving superior project performance.

Target Audience

This course is designed for professionals interested in Lean Construction Principles and Implementation:

1. **Project Managers & Site Managers:** Leading construction project execution.
2. **Civil Engineers & Construction Engineers:** Involved in design, planning, and on-site operations.
3. **Architects & Design Professionals:** Seeking to integrate Lean principles into early design phases.
4. **Quantity Surveyors & Cost Managers:** Interested in cost optimization through waste reduction.
5. **Contractors & Subcontractors:** Aiming to improve productivity, reduce waste, and enhance profitability.
6. **Lean Facilitators & Process Improvement Specialists:** From within construction firms or consulting.
7. **Procurement & Logistics Managers:** Optimizing supply chain efficiency in construction.
8. **Owners & Clients' Representatives:** Seeking better project value and predictability from their construction partners.

Course Duration: 5 Days

Course Modules

- **Module 1: Introduction to Lean Thinking and Construction**
  - **Core Concepts of Lean**: Origin (Toyota Production System), value, and waste.
  - **The Five Lean Principles**: Define value, map value stream, create flow, establish pull, seek perfection.
  - **Applying Lean to Construction**: Unique challenges and opportunities in the built environment.
  - **The Eight Wastes in Construction (TIMWOODS)**: Transport, Inventory, Motion, Waiting, Over-processing, Overproduction, Defects, Skills (underutilized).
  - **Benefits of Lean Construction**: Improved productivity, reduced cost, enhanced quality, faster delivery.
- **Module 2: Value and Waste Identification in Construction**
  - **Defining Value from the Customer's Perspective**: What truly adds value to a construction project?
  - **Waste Walks and Gemba Walks**: Practical methods for observing and identifying waste on site.
  - **Root Cause Analysis for Waste**: Techniques like the 5 Whys and Fishbone diagrams.
  - **Value-Added vs. Non-Value-Added Activities**: Distinguishing productive work from waste.
  - **Visual Management for Waste Detection**: Using visual cues to highlight inefficiencies.

- **Module 3: Value Stream Mapping (VSM) for Construction Processes**
    - **Introduction to VSM**: Visualizing material and information flow from start to finish.
    - **Steps in Creating a Current State VSM**: Identifying process steps, cycle times, wait times, inventory.
    - **Analyzing the Current State Map**: Pinpointing bottlenecks, waste, and areas for improvement.
    - **Designing a Future State VSM**: Creating an optimized, lean workflow.
    - **Implementation Planning for VSM Improvements**: Moving from map to action.
- **Module 4: The Last Planner® System (LPS) for Workflow Control**
    - **Understanding Workflow Reliability**: Why plans fail and how to improve commitment.
    - **Components of the LPS**: Master Schedule, Phase Planning, Lookahead Planning, Weekly Work Plan.
    - **Make-Ready Planning**: Identifying and removing constraints to ensure work is ready.
    - **Percent Plan Complete (PPC)**: Measuring planning reliability.
    - **Root Cause Analysis for Planning Failures**: Learning from deviations to improve future plans.
- **Module 5: Pull Planning and Just-In-Time (JIT) in Construction**
    - **Introduction to Pull Systems**: Producing what is needed, when it is needed.
    - **Pull Planning Workshops**: Collaborative scheduling from project milestones backward.
    - **Managing Production Control**: Kanban systems and visual signals for workflow.
    - **Just-In-Time (JIT) Delivery**: Minimizing inventory and optimizing material flow.
    - **Challenges and Benefits of Pull Systems**: Reducing waste, but requiring strong supply chain coordination.
- **Module 6: Continuous Improvement (Kaizen) and Problem Solving**
    - **Culture of Continuous Improvement (Kaizen)**: Small, incremental changes over time.
    - **Standardized Work**: Defining the best way to perform tasks to reduce variation.
    - **A3 Thinking**: Structured problem-solving methodology (Plan-Do-Check-Act cycle).
    - **Visual Workplace and 5S Principles**: Sort, Set in Order, Shine, Standardize, Sustain.
    - **Empowering the Workforce**: Engaging frontline workers in problem identification and solution.
- **Module 7: Lean and Digital Construction Technologies**
    - **Lean and Building Information Modeling (BIM)**: Synergies for waste reduction in design and construction.
    - **Digital Tools for Lean Implementation**: Project management software, collaboration platforms, mobile apps.
    - **Data Analytics for Lean**: Using performance data to drive continuous improvement.
    - **Prefabrication and Modular Construction**: Lean approaches to off-site manufacturing.
    - **Future Trends**: Robotics, AI, and their potential to further enhance Lean Construction.
- **Module 8: Implementing Lean Construction and Overcoming Barriers**
    - **Developing a Lean Implementation Strategy**: Phased approach, pilot projects.
    - **Building a Lean Culture**: Leadership commitment, training, communication, incentives.
    - **Overcoming Resistance to Change**: Strategies for stakeholder engagement and buy-in.
    - **Measuring Lean Performance**: Key metrics for tracking progress and impact.
    - **Lean Construction Integration**: Applying principles across the project lifecycle and within organizations. Participants will develop a preliminary Lean implementation plan for a project or organization in a local context (e.g., Kenya).

Training Methodology

- **Interactive Workshops:** Facilitated discussions, group exercises, and problem-solving activities.
- **Case Studies:** Real-world examples to illustrate successful community-based surveillance practices.
- **Role-Playing and Simulations:** Practice engaging communities in surveillance activities.

- **Expert Presentations:** Insights from experienced public health professionals and community leaders.
- **Group Projects:** Collaborative development of community surveillance plans.
- **Action Planning:** Development of personalized action plans for implementing community-based surveillance.
- **Digital Tools and Resources:** Utilization of online platforms for collaboration and learning.
- **Peer-to-Peer Learning:** Sharing experiences and insights on community engagement.
- **Post-Training Support:** Access to online forums, mentorship, and continued learning resources.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call +254769199797

Certification

Upon successful completion of this training, participants will be issued with a globally recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

- Participants must be conversant in English.
- Upon completion of training, participants will receive an Authorized Training Certificate.
- The course duration is flexible and can be modified to fit any number of days.
- Course fee includes facilitation, training materials, 2 coffee breaks, buffet lunch, and a Certificate upon successful completion.
- One-year post-training support, consultation, and coaching provided after the course.
- Payment should be made at least a week before the training commencement to Fineskill Training Center account, as indicated in the invoice, to enable

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com